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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,852	12/21/2001	Sebastian Bohm	TGZ-001A	3328

959 7590 10/19/2004

LAHIVE & COCKFIELD, LLP.
28 STATE STREET
BOSTON, MA 02109

EXAMINER

SINES, BRIAN J

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,852	BOHM ET AL.	
	Examiner	Art Unit	
	Brian J. Sines	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-196 is/are pending in the application.
- 4a) Of the above claim(s) 151-196 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-57 is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims rejected are 1,10-12,15-19,24,58,71-73,76-80,85,90,101-103,106-110,115,120-122,131-133,136-139,144, 149 and 150.

Continuation of Disposition of Claims: Claims objected to are 2-9,13,14,20-23,25-28,59-70,74,75,81-84,86-89,91-100,104,105,111-114,116-119,123-130,134,135,140-148.

DETAILED ACTION***Election/Restrictions***

Applicant's election with traverse of group I comprising claims 1 – 150 in the reply filed on 8/6/2004 is acknowledged. The traversal is on the ground(s) that each of the inventions are related. This is not found persuasive because the inventions are distinct as described in the restriction election requirement.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

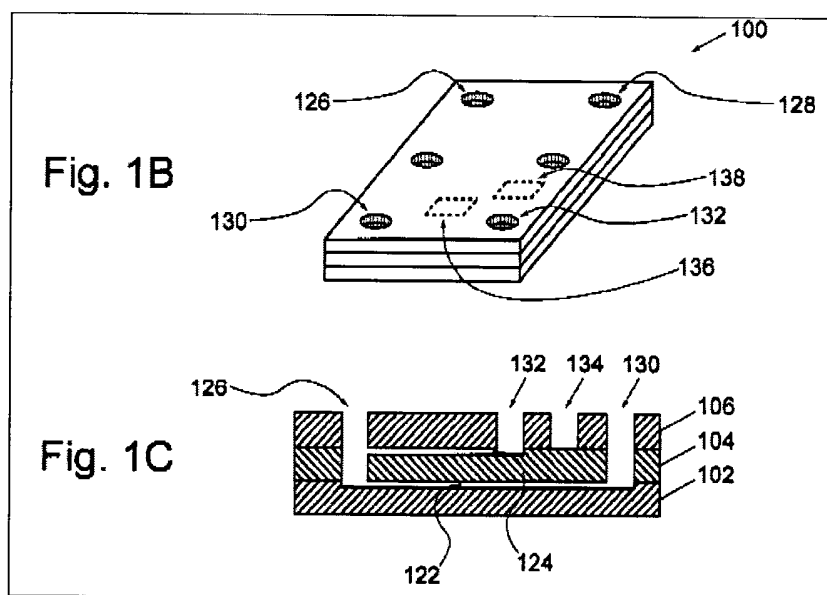
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 10 – 12, 15 – 19, 24, 58, 71 – 73, 76 – 80, 85, 90, 101 – 103, 106 – 110, 115, 120 – 122, 131 – 133, 136 – 139, 144, 149 and 150 are rejected under 35 U.S.C. 102(e) as being anticipated by Chow (U.S. Pat. No. 6,494,230 B2). Regarding claims 1, 17 – 19, 24, 58, 78 – 80, 90, 102, 108 – 110, 115, 120, 132, 137 – 139 and 144, Chow anticipates a microfluidic device (100) comprising: a microchannel (122) comprising an interior bounded by a side wall; and a fluid interface port (130) in the side-wall of the microchannel to provide access to the interior of the microchannel, wherein the port has a diameter of about 25 μm and about 100 μm (see col. 6, lines 44 – 66; col. 7, lines 15 – 64; col. 15, line 25 – col. 16, line 35; figures 1B & 1C). The recited virtual wall is interpreted as being the top surface or meniscus of a fluid placed within the port of the Chow apparatus. The Courts have held that apparatus claims must be structurally

distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The Courts have held that the manner of operating an apparatus does not differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) (see MPEP § 2114).



Regarding claims 10, 11, 71, 77, 101, 107, 131, 136 and 149, Chow teaches the incorporation of a plurality of ports (e.g., 126 & 134) (see figures 1B & 1C). Regarding claims 15, 16, 76, 106, 120 – 122, and 150 Chow teaches that a detection system may be utilized with the port for optically analyzing the fluid within the microchannel (see col. 12, lines 1 – 60; col. 16, lines 23 – 26). Regarding claims 12, 72, 73, 103 and 133, Chow teaches the incorporation of micropumps or pressure-based pneumatic type fluid introduction devices, such as a droplet generating system, for introducing fluid materials into the ports of the microfluidic device (see col. 7, lines 53 – 64).

Allowable Subject Matter

1. Claims 29 – 57 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 29, the cited prior art neither teach nor fairly suggest a microfluidic device comprising: a microchannel having an interior body bounded by a side-wall; and a first fluid interface port formed in the side-wall of the microchannel to provide access to the interior of the microchannel, such that when a fluid is disposed in the interior of the microchannel, the fluid forms a virtual wall at the first fluid interface port, wherein the microchannel is free of a second coaxially arranged fluid interface port formed in the side-wall at a location opposite to the first fluid interface port.

2. Claims 2 – 9, 13, 14, 20 – 23, 25 – 28, 59 – 70, 74, 75, 81 – 84, 86 – 89, 91 – 100, 104, 105, 111 – 114, 116 – 119, 123 – 130, 134, 135 and 140 – 148 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The cited prior art neither teach nor fairly suggest the further incorporation of the limitations of these instant claims within the apparatus disclosed by Chow.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Chow, McGarry et al. and Mastrangelo et al. teach various microfluidic devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

